

GenCore version 5.1.4.p5.4578
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OM protein - nucleic search, using frame_plus_p2n model

Run on: April 5, 2003, 03:01:37 ; Search time 74 Seconds
(without alignments)
1823.483 Million cell updates/sec

Title: US-09-847-081B-2
Perfect score: 2270
Sequence: 1 MSKSVALLWVSTSEVSG.....IAYAKSLVPPNRTSSPLAKT 440

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Ygapop 10.0, Ygapext 0.5
Fgapop 6.0, Fgapext 7.0
Delop 6.0, Delext 7.0

Searched: 441362 seqs, 153338381 residues
Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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-LOOPEXT=0 -UNITS=bits -START=1 -END=1 -MATRIX=blosum62 -TRANS=human-0.cdi
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-NO_XLPXY -NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -LONGLOG -DEV.TIMEOUT=120
-WARN.TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -Fgapop=6 -Fgapext=7
-YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7

Database : Issued_Patents_NA.*
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4: /cgn2_6/ptodata/1/ina/6B_COMB.seq.*
5: /cgn2_6/ptodata/1/ina/PTUS_COMB.seq.*
6: /cgn2_6/ptodata/1/ina/backfiles1.seq.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1826	80.4	1826	1	US-08-579-667-5
2	1799	79.3	1814	1	US-08-579-667-7
3	1774	78.1	1795	1	US-08-579-667-1
4	1762	77.6	1316	1	US-08-579-667-3
5	1750	77.1	1239	4	US-09-180-342-2
6	1744	76.8	1239	4	US-09-180-342-1
7	1732	76.3	1646	1	US-07-935-350-2
8	1732	76.3	1646	1	US-08-300-582-2
9	442	19.5	749	1	US-08-579-667-9
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C 20	326	14.4	11233	4	US-08-980-832-27
C 21	324	14.3	908	3	US-08-660-645A-4
C 22	324	14.3	908	3	US-09-298-718-4
C 23	324	14.3	908	4	US-09-546-969-4
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C 27	174	7.7	2546	4	US-09-091-725-12
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C 30	136.5	6.0	2054	1	US-08-351-981-1
C 31	121	5.3	1349	1	US-08-351-981-5
C 32	120	5.3	1326	4	US-09-625-188-3
C 33	116	5.1	1642	1	US-08-310-693-1
C 34	116	5.1	1642	5	PCT-US95-11280-1
C 35	112.5	5.0	114	2	US-08-260-546-10
C 36	112.5	5.0	114	4	US-09-436-088A-12
C 37	111.5	4.9	346	4	US-09-060-756-427
C 38	107.5	4.7	425	4	US-09-060-756-545
C 39	104.5	4.6	1479	2	US-08-351-981-3
C 40	101	4.4	1023	2	US-08-757-653-175
C 41	101	4.4	1023	2	US-08-823-516-78
C 42	101	4.4	1023	3	US-08-759-038-114
C 43	101	4.4	1023	3	US-08-758-314-114
C 44	100.5	4.4	49377	1	US-08-764-233A-1
C 45	97	4.3	20235	1	US-07-642-734C-3

ALIGNMENTS

RESULT 1
US-08-579-667-5
; Sequence 5, Application US/08579667
; Patent No. 5705624
; GENERAL INFORMATION:
; APPLICANT: Fitzmaurice, Wayne P.
; APPLICANT: Hellmann, Gary M.
; APPLICANT: Grill, Laurence K.
; APPLICANT: Kumagai, Monto H.
; APPLICANT: Della-Cioppa, Guy R.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING ENZYMES USEFUL IN
; TITLE OF INVENTION: PHYTOENE BIOSYNTHESIS
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Virginia C. Bennett
; STREET: 1211 East Morehead Street, PO Drawer 34009
; CITY: Charlotte
; STATE: No. 5705624th Carolina
; COUNTRY: USA
; ZIP: 28234
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/579.667
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Bennett, Virginia C.
; REGISTRATION NUMBER: 37,092
; REFERENCE/DOCKET NUMBER: 627-196
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919-420-2200
; TELEFAX: 919-881-3175

; INFORMATION FOR SEQ ID NO: 7:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 1814 base pairs

; TYPE: nucleic acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: cDNA

; FEATURE:

; NAME/KEY: CDS

; LOCATION: 363..1592

; US-08-579-667-7

Alignment Scores:

Pred. No.:	2.3e-201	Length:	1814
Score:	1799.00	Matches:	356
Percent Similarity:	79.93%	Conservative:	30
Best Local Similarity:	81.09%	Mismatches:	24
Query Match:	79.25%	Indels:	29
DB:	1	Gaps:	4

US-09-847-081B-2 (1-440) x US-08-579-667-7 (1-1814)

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QY 3 MetSerValAlaLeuLeuTyrValValSerProThrSerGluValSerAsnGlyThrGly 22
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DB 420 TTCTTGGATTGATCGCGGAGGAAACCGGTTTGTATTCGTCG-----AGG 467
QY 43 AspArgAsnLeuMetTrpAsnGlyArgGlyValSerGlyValArgGlnArgTrpAsn 62
DB 468 CATGGAATTTAGTGTGCAAGACAGAAACAGAGAGGTGTGAAACAGGTGGAATTT 527
QY 63 GlySerLeuLeuAlaAspProArgTyrSerCysLeuGlyGlySerArgThrGluGly 82
DB 528 GGT-----530
QY 83 SerThrPheSerValGlnSerSerLeuValAlaSerProAlaGlyGluMet---ThrVal 101
DB 531 -----TCGTAAAGTCTCTATGGTGTGCTACACCGCGGGAGAAATGGCGACGATG 581
QY 102 SerSerGluGlyValSerValValValLeuGlyGlnAlaAlaLeuValGlyGln 121
DB 582 ACATCAGAACAGATGTTTATGATGTGTTTAAACACAGCAGCTTTAGTGAAGAGGCGAG 641
QY 122 LeuArgSerThrAspAspLeuValValSerProAspIleValProGlyAsnLeuGly 141
DB 642 TTGAGATCTGCTGTATGATTTAGAGTGAACCGCGAGATCCCTCTCCCGGGATTGAGC 701
QY 142 LeuLeuSerGluAlaTyrAspArgCysGlyGluValCysAlaGluTyrAlaLysThrPhe 161
DB 702 TTGTTGAGTGAACATATAGTGTAGTGTAGTGTAGTGTAGTGTAGTGTAGTGTAGTGTAG 761
QY 162 TyrLeuGlyThrLysLeuMetThrProGluArgArgAlaIleTrpAlaIleThrVal 181
DB 762 TACTTAGGAACCATGCTAATGACTCCAGAGAGAAGAGGCTATTGGGCAATATATGTG 821
QY 182 TrpCysArgArgThrAspGluLeuValAspGlyProAsnAlaSerHisIleThrProGln 201
DB 822 TGGTGCAGGAGACAGATGAATTTGTATGGCCCAACAGCAATCATGTTACACCCCA 881
QY 202 AlaLeuAspArgTrpGluThrArgLeuGluAspIlePheSerGlyArgProPheAspMet 221
DB 882 GCCTTAGATAGTGGGAACCGGCTTGAAGATGTTTTCAGCGGGCGACCAATTGATATG 941
QY 222 LeuAspAlaLeuSerAspThrValSerArgPheProValAspIleGlnProPheArg 241
DB 942 CTCGATGCTGCTTTGCCCATATCTGTTCCAGCTTCCAGTATTCAGCGGTTTCA 1001
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QY 282 GlyIleAlaProGluSerLysAlaThrThrGluSerValTyrAsnAlaAlaLeuAlaLeu 301
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QY 302 GlyLeuAlaAsnGlnLeuThrAsnIleLeuArgAspValGlyGluAspAlaArgGly 321
DB 1182 GGAATCGCGAATCAACTAAGCAACATACCTCAGGATGTTGGAGAGATGCCAGAAAGGA 1241
QY 322 ArgValTyrLeuProGlnAspGluLeuAlaGlnAlaGlyLeuSerAspGluAspIlePhe 341
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QY 342 AlaGlyArgValThrAspLysTrpArgAsnPheMetLysGlnIleGlnArgAlaArg 361
DB 1302 GCTGAAAAGTCACTGATAAGTGGAGAGCTTTATGAAGAAGCAATCCAGAGGCAAGA 1361
QY 362 LysPhePheAspGluSerGlyValThrGluLeuAspSerAlaSerArgTrpPro 381
DB 1362 AAGTCTCTCGATGAGCAGAGGAGGAGGTATACACACTGAGCTCAGCTAGCAGTGGCCT 1421
QY 382 ValLeuThrAlaLeuLeuTyrArgLysIleLeuAspGluIleGluAlaAsnAspTyr 401
DB 1422 GTATGGGATCTTTGCTGTGTACCGCAAACTACTGGACGAGATTCAAGCCAATGACTAC 1481
QY 402 AsnAsnPheThrArgArgAlaTyrValSerLysProLysLysLeuLeuThrLeuProIle 421
DB 1482 AACAACTTCAACAAAGAGAGCTTATGTAGCAAAACCAACCAAGAGCTAATTTCCCTTACCTATT 1541
QY 422 AlaTyrAlaLysSerLeuValProProAsnArgThr-SerSerProLeuAlaLys 439
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RESULT 3

US-08-579-667-1

; Sequence 1, Application US/08579667.

; Patent No. 5705624

; GENERAL INFORMATION:

; APPLICANT: Fitzmaurice, Wayne P.

; APPLICANT: Hellmann, Gary M.

; APPLICANT: Grilli, Laurence K.

; APPLICANT: Kumagai, Monto H.

; APPLICANT: Della-Cioppa, Guy R.

; TITLE OF INVENTION: DNA SEQUENCES ENCODING ENZYMES USEFUL IN

; TITLE OF INVENTION: PHYTOENE BIOSYNTHESIS

; NUMBER OF SEQUENCES: 19

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Virginia C. Bennett

; STREET: 1211 East Morehead Street, PO Drawer 34009

; CITY: Charlotte

; STATE: No. 5705624th Carolina

; COUNTRY: USA

; ZIP: 28234

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/579,567

; FILING DATE:

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:

; NAME: Bennett, Virginia C.

; REGISTRATION NUMBER: 37,092

; REFERENCE/DOCKET NUMBER: 627-196

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 919-420-2200

; TELEFAX: 919-881-3175

Oy	3	MetSerVal	1	LeuLeuT	1	ValValSer	1	ProThrSer	1	GluValSer	1	AsnGlyThr	1	Gly	22
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Oy	23	LeuLeuAsp	1	SerValArg	1	GluGlyAsn	1	ArgValPhe	1	ValSerSer	1	ArgPheLeu	1	AlaArg	42
Db	58	TTTATG	1	CAGAGT	1	GTGAGAGGTAAT	1	TAGATTCT	1	TCACAGTCT	1	---	1	---	105
Oy	43	AspArg	1	AsnLeuMet	1	TTrpAsnGly	1	ArgIleLeuGly	1	GlyArgGln	1	ArgTrpAsn	1	Phe	62
Db	106	CACGCT	1	AACCTTGT	1	TAGTAACG	1	ACGACGTAT	1	AACAGGGGA	1	---	1	---	144
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Db	145	---	1	---	1	---	1	---	1	GGAGGTAA	1	CACAGACA	1	ACACCGT	168
Oy	83	SerThrPhe	1	SerValGln	1	SerSerLeu	1	ValAlaSer	1	ProAlaGly	1	GluMetThr	1	ValSer	102
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DB	229	AGCGAACAAATGGTGTAGCAGCTCGTACTTGGTCAAGCTGCACCTAGTAAACGTCAGTTA	288
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QY	143	LeuSerGluAlaTyrAspArgCysGlyGluValCysAlaGluTyrAlaLysThrPheTyr	162
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QY	163	LeuGlyThrLysLeuMetThrProGluArgArgAlaIleTyrAlaIleTyrValTyr	182
DB	409	TTGGGTACCATGTTGATGACACCAAGAGGCTGCTGCAATATGGGTATTACGTTTGG	468
QY	183	CysArgThrAspIleLeuValAspGlyProAsnAlaSerHisIleThrProGlnAla	202
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DB	529	CTTTGACAGATGGGAACCGTTTGGAGACGCTGTTTAAACGGCAGACCTTTCGATATGTC	588
QY	223	AspAlaAlaLeuSerAspThrValSerArgPheProValaspIleGlnProPheArgAsp	242
DB	589	GACGGACCTTCTAGTGACACTGTGAGCAATTTCCCTGGGACATCCAAACCTTTCCGGAC	648
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DB	649	ATGATCGAGGGCATGAGATGATCTTCGTAAGTCTCGTTATAGAATTTTGATGAGTTG	708
QY	263	TyrLeuTyrCysTyrTyrValAlaGlyThrValGlyLeuMetSerValProValMetGly	282
DB	709	TATTTCTACTGCTACTAGCTGGCAGAACCGTGGGCTTATGTCAGTCGCTATCATCGGA	768
QY	283	IleAlaProGluSerLysAlaThrThrGluSerValTyrAsnAlaAlaLeuAlaLeuGly	302
DB	769	ATTGACACAGAGATAAGCTACTAGTAATCTGTTTACCCGAGCAGCATAGCAATTAGGT	828
QY	303	LeuAlaAsnGlnLeuThrAsnIleLeuArgAspValGlyGluAspAlaArgArgGlyArg	322
DB	829	ATAGCTAACCGACTTACAAATATCTTGAGGACGTGGGTGAGGACGACGTAGGGTCTGT	888
QY	323	ValTyrLeuProGlnAspLeuAlaGlnAlaGlyLeuSerAspGluAspIlePheAla	342
DB	889	GTGTATCTCCACAGACAGCTCGCTCAAGCTGATGTAGTACGACGAGACATTTTCGCA	948
QY	343	GlyArgValThrAspLysTyrArgAsnPheMetLysLysGlnIleGlnArgAlaArgLys	362
DB	949	GGTCGTGTACAGACAAGTGGAGGATTTTCATGAAAAGCAGATTCACCGTCTCGTAAA	1008
QY	363	PhePheAspGluSerGluTysGlyValThrGluLeuAspSerAlaSerArgTyrProVal	382
DB	1009	TTTTTCGACGAAGCTGAAAGGGAGTTACTGAGCTTTCTAGTCATCAAGGTTTCCAGTT	1068
QY	383	LeuThrAlaLeuLeuTyrArgLysIleLeuAspGluIleGluAlaAsnAspTyrAsn	402
DB	1069	TGGGCGACGCTGTGCTCTATAGAAGATTTTGGACGAAATTCGAGGCTAACGATTATAAT	1128
QY	403	AsnPheThrArgAlaTyrValSerLysProLysLysLeuLeuThrLeuProIleAla	422
DB	1129	AATTTTACTAAAGCTGCTTACGTTTCTAAGACGAAAAAATTCATCGCTCTTCCATCGCT	1188
QY	423	TyrAlaLysSerLeuValProProAsnArgThrSerSer	435
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RESULT 7

RESULTS /
US-07-995-950-2

US-07-993-930-2
; Sequence 2, Application US/07995950

; Sequence 2, Application No. 5304478

; FACILE NO. 3304478
; GENERAL INFORMATION:

```

1  APPLICANT: Bird, Colin R.
2  APPLICANT: Grierson, Donald
3  APPLICANT: Schuch, Wolfgang W.
4  TITLE OF INVENTION: DNA, CONSTRUCTS, CELLS AND PLANTS
5  TITLE OF INVENTION: DNA, CONSTRUCTS, CELLS AND PLANTS
6  NUMBER OF SEQUENCES: 6
7  CORRESPONDENCE ADDRESS:
8  ADDRESSEE: Cushman, Darby & Cushman
9  STREET: 1615 L Street, N.W.
10 CITY: Washington
11 STATE: D.C.
12 COUNTRY: U.S.A.
13 ZIP: 20036-5601
14 COMPUTER READABLE FORM:
15 MEDIUM TYPE: Floppy disk
16 COMPUTER: IBM PC compatible
17 OPERATING SYSTEM: PC-DOS/MS-DOS
18 SOFTWARE: Patent In Release #1.0, Version #1.25
19 CURRENT APPLICATION DATA:
20 APPLICATION NUMBER: US/07/995,950
21 FILING DATE:
22 CLASSIFICATION: 800
23 PRIOR APPLICATION DATA:
24 APPLICATION NUMBER: US/07/625,664
25 FILING DATE:
26 ATTORNEY/AGENT INFORMATION:
27 NAME: Kokuljis, Paul N.
28 REGISTRATION NUMBER: 16,773
29 REFERENCE/DOCKET NUMBER: PNK/3893/82895/MJW
30 TELECOMMUNICATION INFORMATION:
31 TELEPHONE: 202-861-3000.
32 TELEFAX: 202-822-0944
33 TELEX: 248453 cush
34 INFORMATION FOR SEQ ID NO: 2:
35 SEQUENCE CHARACTERISTICS:
36 LENGTH: 1646 base pairs
37 TYPE: nucleic acid
38 STRANDEDNESS: single
39 TOPOLOGY: linear
40 MOLECULE TYPE: CDNA
41 US-07-995-950-2
42
43 Alignment Scores:
44 Pred. No.: 1,46e-193 Length: 1646
45 Score: 1732.00 Matches: 346
46 Percent Similarity: 85.68% Conservatives: 31
47 Best Local Similarity: 78.64% Mismatches: 36
48 Query Match: 76.30% Indels: 27
49 DB: 1 Gaps: 4

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US-09-847-081B-2 (1-440) X US-07-995-950-2 (1-1646)

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Qy	121	GlnLeuArgSerThrAspAspLeuGluValLysProAspIleValValProGlyAsnLeu	140
Db	483	CAACTGAGATCTACCAATGAGTTAGNACTGAAGCCGGATATACCTATTTCGGGGGAATTTG	542
Qy	141	GlyLeuLeuSerGlnAlaTyrAspArgCysGlyGluValCysAlaGluTyrAlaLysThr	160
Db	543	GGCTTGTGTAGTAGAACAATATGATAGTGTGGTAGATGTGCAGAGATATGCACAAAGC	602
Qy	161	PheTyrLeuGlyThrLysLeuMetThrProGluArgArgAlaIleThrPalaIleTyr	180
Db	603	TTTAACCTTAGGAACACTATGCTAATGACTCCGAGAGAAGAGGGTATCTGGCCAATATAT	662
Qy	181	ValTyrCysArgArgThrAspGluLeuValAspGlyProAsnAlaSerHisIleThrPro	200
Db	663	GTATGTTGCAAGAAACAGATGAACCTTGTGATGCCCAACGCGATCATATATTACCCCG	722
Qy	201	GlnAlaLeuAspArgTyrGluThrArgLeuGluAspIlePheSerGlyArgProPheAsp	220
Db	723	GCAGCCTTAGATAGTGGGAAAATAGGCTAGAAGATGTTTCAATGGCGGCCCATTTGAC	782
Qy	221	MetLeuAspAlaAlaLeuSerAspThrValSerArgPheProValAspIleGlnProPhe	240
Db	783	ATGCTCGATGGTCTTTGTGCCATACAGTTTCTAACTTCCAGATGTATATTACGCCATTC	842
Qy	241	ArgAspMetIleGluGlyMetArgMetAspLeuTyrLysSerArgTyrLysThrPheAsp	260
Db	843	AGAGATATGATTGAAGGAATCGTATGGACTGTGAAATCGAGAAATCGAGATACAAAACCTTCGAC	902
Qy	261	GluLeuTyrLeuTyrCysTyrTyrValAlaGlyThrValGlyLeuMetSerValProVal	280
Db	903	GAACATATACCTTTATTGTATTATGTGCTGTCAGCTGGTGGTGTGATGAGTGTTCCAATT	962
Qy	281	MetGlyTleAlaProGluSerLysAlaThrThrGluSerValTyrAsnAlaAlaLeuAla	300
Db	963	ATGGGTATCGCCCTGAAATCAAGGCAACACAGAGAGCGTATATATGCTGCTTGGCT	1022
Qy	301	LeuGlyLeuAlaAsnGlnLeuThrAsnIleLeuArgAspValGlyGluAspAlaArgArg	320
Db	1023	CTGGGATCGCAAAATCAATTAACTAACATCTACAGATGTTGGGAAGATGCCAGAGA	1082
Qy	321	GlyArgValTyrLeuProGlnAspGluIleAlaGlnAlaGlyLeuSerAspGluAspIle	340
Db	1083	GSAAAGAGTCTACTTGCTCAAGATGAATAGCACAGGACAGTCTATCGGATGAAGATATA	1142
Qy	341	PheAlaGlyArgValThrAspLysTyrPArgAsnPheMetLysLysGlnIleGlnArgAla	360
Db	1143	TTTGTCTGGAAGGTGACCGATAAATGGAGATCTTTATGAAGAAACAATACATAGGCA	1202
Qy	361	ArgLysPhePheAspGluSerGluLysGlyValThrGluLeuAspSerAlaSerArgTyr	380
Db	1203	AGAAAGTCTTTGATGAGCGCAGAGAAGCGGTGACAGAAATTTGAGCTCAGCTAGTAGATTC	1262
Qy	381	ProValLeuThrAlaLeuLeuTyrArgLysIleLeuAspGluIleGluAlaAsnAsp	400
Db	1263	CTGTATGGGCATCTTTGTGCTGTACCGCAAAATACTAGATGAGATTGAAGCCAAATGC	1322
Qy	401	TyrAsnAsnPheThrArgAlaTyrValSerLysProLys-LysLeuLeuThrLeuLeu	420
Db	1323	TACAACAACCTTCACAAAGAGACCATATGTGACAAATCAAGCAAGTTGATTGCATTACC	1382
Qy	420	oIleAlaTyrAlaLysSerLeuValProProAsnArgThrSerSerProLeuAlaLys	439
Db	1383	TATTGCATATGCAAAATCTTTGTGCCCTCT-----ACAAAAGTGGCTCTCTTCAAA	1434

APPLICANT: Grill, Laurence K.
 APPLICANT: Kumagai, Monto H.
 APPLICANT: Della-Cioppa, Guy R.
 TITLE OF INVENTION: DNA SEQUENCES ENCODING ENZYMES USEFUL IN
 TITLE OF INVENTION: PHYTOENE BIOSYNTHESIS
 NUMBER OF SEQUENCES: 19
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: Virginia C. Bennett
 STREET: 1211 East Morehead Street, PO Drawer 34009
 CITY: Charlotte
 STATE: No. 5705624th Carolina
 COUNTRY: USA
 ZIP: 28234
 COMPUTER READABLE FORM:
 MEDIUM TYPE: Floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: PatentIn Release #1.0, Version #1.30
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/579,667
 FILING DATE:
 CLASSIFICATION: 435
 ATTORNEY/AGENT INFORMATION:
 NAME: Bennett, Virginia C.
 REGISTRATION NUMBER: 37,092
 REFERENCE/DOCKET NUMBER: 627-196
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: 919-420-2200
 TELEFAX: 919-881-3175
 INFORMATION FOR SEQ ID NO: 9:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 749 base pairs
 TYPE: nucleic acid
 STRANDEDNESS: single
 TOPOLOGY: linear
 MOLECULE TYPE: cDNA
 US-08-579-667-9

Alignment Scores:
 Pred No.: 1,496-42
 Score: 442.00
 Percent Similarity: 73.8%
 Best Local Similarity: 65.77%
 Query Match: 19.47%
 DB: 1
 Length: 749
 Matches: 98
 Conservative: 12
 Mismatches: 11
 Indels: 28
 Gaps: 4

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Db 661 CTGAGTCTACTGATGATTAGAGTGAACCGGAGATCCCTCTCCCGGGAATTGAGC 720
QY 142 LeuLeuSerGluAlaTyArgAspArgCys 150
Db 721 TTGTTAAGTGAAGCATATGATAGTGT 747
RESULT 10
US-08-095-726-5
; Sequence 5, Application US/08095726
; Patent No. 5530188
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L
; APPLICANT: Brinkhaus, Friedhelm L
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H
; APPLICANT: Yarger, James G
; APPLICANT: Yen, Huel-Che B
; TITLE OF INVENTION: Beta-Carotene Biosynthesis in
; Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 79
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amoco Corp., Patents and Licensing Dept
; STREET: 200 E Randolph St
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60680-0703
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/095,726
; FILING DATE: 21-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/785,566
; FILING DATE: 30-OCT-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Galloway, No. 5530188val B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 3128567180
; TELEFAX: 3128564972
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1198 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
US-08-095-726-5
Alignment Scores:
Pred. No.: 4, 65e-33 Length: 1198
Score: 364.00 Matches: 95
Percent Similarity: 50.53% Conservative: 49
Best Local Similarity: 33.33% Mismatches: 124
Query Match: 16.04% Indels: 18
DB: 1 Gaps: 4
US-09-847-081b-2 (1-440) x US-08-095-726-5 (1-1198)
QY 148 AspArgCysGlyGluValCysAlaGluTyArgAlaLysThrPheTyLeuGlyThrLysLeu 167
Db 37 GACCACCCAGCAGACCATGGCTCGAAGGTTTTCACCGCTGGGAGCTG 96
QY 168 MetThrProGluArgArgAlaLysThrPheValThrPheValThrPheValThrPheValThr 187
Db 97 TTCGACCCCGCCACCGCGTAGCTGCTACACCTGGTGGCCGCTGCGAT 156
QY 188 GluLeuValAspGlyProAsn-----AlaSerHisIleThr 199
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Db 157 GACGTCATTGACGACGACGACGCTTCGCCAGCAGCGCGCGGAGGAGGAGGCC 216
QY 200 ProGlnAlaLeuAspArgTrpGluThrArgLeuGluAspIlePheSerGlyArgProPhe 219
Db 217 ACCCAGCGCTGGCCCGGCTGCGCACGCTGACCTGCGCGGCTTTGAAGGCGCGAGATG 276
QY 220 ---AspMetLeuAspAlaAlaLeuSerAspThrValSerArgPheProValAspIleGln 238
Db 277 CAGGATCCGGCCTTCGCTGCTTTCAGGAGGTGGCGCTGACCCACGGTATTATACCCCGC 336
QY 239 PropheArgAspMetIleGluGlyMetArgMetAspLeuTrpLysSerArgTyLysThr 258
Db 337 ATGGCGCTCGATCACCTCGACGCGCTTTCGATGAGCGTGGCTGCTGATGATGCGC 396
QY 259 PheAspLeuLeuTyLeuTyCysTyTrpValAlaGlyThrValGlyLeuMetSerVal 278
Db 397 TTGAGGATACGCTGCGCTACTGCTATCACGTGGCGGCTGGTGGTCTGATGATGCGC 456
QY 279 ProValMetGlyIleAlaProGluSerLysAlaThrThrGluSerValTyAsnAlaAla 298
Db 457 AGGTGATGGCGTG-----CGGATGAGCGGCTGCTGGATCGCGCC 498
QY 299 LeuAlaLeuGlyLeuAlaAsnGlnLeuThrAsnIleLeuArgaspValGlyGluAspAla 318
Db 499 TGGATCTGGGCTGGCTTCCAGCTCCAGGATATGCCCCGGGATATTATTGAGATGCG 558
QY 319 ArgArgGlyArgValTyLeuProGlnAspLeuAlaGlnAlaGlyLeuSerAspGlu 338
Db 559 GCTATTGACGCTGCTATCTGCGCGGAGTGGCTGCGAGGATGCGGCGTGGCCCGGAG 618
QY 339 AspIlePheAla-GlyArgValThrAspLysTrpArgAsnPheMetLysGlnIleGln 358
Db 619 AACTATGCCCGCGGAGAAATCGCCCGCTGCGCGG-TGG---CGGAGGCTTATTGA 674
QY 358 nArgAlaArgLysPheAspGluSerGluLysGlyValThrGluLeuAspSerAlaSe 378
Db 675 TGGCGAGAGCGCTACTACATCTCTCCAGCGCGGCTACACGATCTCGCGCGCGCTC 734
QY 378 rArgTrpProValLeuThrAlaLeuLeuTyArgLysIleLeuAspGluIleGluAl 398
Db 735 CGCGTGGCGGATCGCCACCGCGCGAGCTACCGGAGATCGGTATTAAAGGTAAGGC 794
QY 398 aAsnAspTyArgAsnPheThrArgAlaTyValSerLysProLysLysLeuLeuTh 418
Db 795 GCGCGGAGGCGCGCTGGATCGCCCGCAGCACACCAAGGTAAGGTAAGGTAAGGTA 854
QY 418 rLeuProIleAla 422
Db 855 GCTGATGGCGCA 867
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RESULT 11
US-08-096-043-5
; Sequence 5, Application US/08096043
; Patent No. 5530189
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L
; APPLICANT: Brinkhaus, Friedhelm L
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H
; APPLICANT: Yarger, James G
; APPLICANT: Yen, Huel-Che B
; TITLE OF INVENTION: Lycopene Biosynthesis in
; Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 70
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amoco Corp., Patents and Licensing Dept
; STREET: 200 E Randolph St
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60680-0703
; COMPUTER READABLE FORM:
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Db 97 TTCGACCCGCCACCCCGCTAGCTGCTGATGCTCTACACCTGGTGGCCCGCCACTCGCAT 156
QY 188 GluLeuValAspGlyProAsn-----alaserHisIleThr 199
Db 157 GAGCTCATTCAGCAGACCCAGCGCTTCGCGAGGAGCGCGCGGAGGAGGCGC 216
QY 200 ProGluAlaLeuAspArgTrpGluThrArgLeuGluAspIlePheSerGlyArgProPhe 219
Db 217 ACCAGCGCTGCCCGCTGCGCAGCTGACCTGGCGGCGTTTGAAGGGCGCGAGATG 276
QY 220 ---AspMetLeuAspAlaLeuSerAspThrValSerArgPheProValAspIleGln 238
Db 277 CAGGATCCGCGCTTCGCTTCAGGAGTGGCGCTGACCCACCGTATTACGCCCGCC 336
QY 239 PropheArgAspMetIleGluGlyMetArgMetAspLeuTrpLysSerArgTrpLysThr 258
Db 337 ATGCGCTCGATCACCTCGACGCTTGGCATGGAGTGGCTCAGACCGCGTATGTCACG 396
QY 259 PheAspGluLeuTrpLysCysTrpValAlaGlyThrValGlyLeuMetSerVal 278
Db 397 TTTGAGATACGCTGCTACTCTATCAGTGGCGGGGTGGTGGTGTGATGGCGC 456
QY 279 ProValMetGlyIleAlaProGluSerLysAlaThrThrGluSerValTrpAsnAla 298
Db 457 AGGTGATGGCGCTG-----CGGGATGAGCGGCTGGTGGATCGCGC 498
QY 299 LeuAlaLeuGlyLeuAlaAsnGlnLeuThrAsnIleLeuArgAspValGlyGluAspAla 318
Db 499 TGGGATCTGGGCTGCTTCAGCTGACGAATATGGCGCGGATATTATGACGATGCG 558
QY 319 ArgArgGlyValTrpLeuProGlnAspGluLeuAlaGlnAlaGlyLeuSerAspGlu 338
Db 559 GCTATTGACCGTGTCTGCGCGCGGCTGCTGCGGATCGCGGCTGGCGCGGAG 618
QY 339 AspIlePheAla-GlyArgValThrAspLysTrpArgAsnPheMetLysLysGlnIleG 358
Db 619 AACTATGCGCGGGGAGATGCGCGCGCTGGCGCGG-TGG---CGGAGGCTTATTGA 674
QY 358 nArgAlaArgLysPheAspGluSerGluLysGlyValThrGluLeuAspSerAlaSe 378
Db 675 TGGCGGAGAGCGCTACTACTCTCTCCAGCGCGGCTACAGATCTGCGGCGGCTC 734
QY 378 rArgTrpProValLeuThrAlaLeuLeuLeuTrpArgLysIleLeuAspGluIleGlu 398
Db 735 CGGCTGGCGGATGCGCGCGCGCGCTGCTACCGGGAGATCGGTATTAAAGTAAAGC 794
QY 398 aAsnAspTrpAsnAsnPheThrArgAlaTrpValSerLysProLysLysLeuLeuTh 418
Db 795 GCGGGGAGGCGCGCTGGATCGCGCGCCAGCACACCCAGCAGAGTGTAATAATGCCAT 854
QY 418 rLeuProIleAla 422
Db 855 GCTGATGGCGGCA 867

RESULT 14

US-08-331-004A-1

Sequence 1, Application US/08331004A

Patent No. 5618988

GENERAL INFORMATION:

APPLICANT: Hauptmann, Randal

APPLICANT: Eschenfeldt, William H

APPLICANT: English, Jami

APPLICANT: Brinkhaus, Friedhelm L

TITLE OF INVENTION: Enhanced Carotenoid Accumulation

TITLE OF INVENTION: In Storage Organs of Genetically

TITLE OF INVENTION: Engineered Plants

NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:

ADDRESSEE: Amoco Corporation, Law Dept

STREET: 55 Shuman Boulevard, Suite 600

CITY: Naperville

STATE: IL

COUNTRY: USA

ZIP: 60563-8437
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.24
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/331,004A
FILING DATE:

CLASSIFICATION: 800

ATTORNEY/AGENT INFORMATION:

NAME: Galloway, No. 5618988val B

TELECOMMUNICATION INFORMATION:

TELEPHONE: 708/7172447

TELEFAX: 708/7172430

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 1083 base pairs

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: DNA (genomic)

US-08-331-004A-1

Alignment Scores:

Pred. No.: 7,77e-33

Score: 361.50

Percent Similarity: 50.18%

Best Local Similarity: 33.33%

Query Match: 15.93%

Indels: 17

Gaps: 3

US-09-847-081B-2 (1-440) x US-08-331-004A-1 (1-1083)

QY 148 AspArgCysGlyGluValCysAlaGluTyrAlaLysThrPheTyrLeuGlyThrLysLeu 167
Db 24 GACACGCCAGCAGACCATGGCCACGGCTCGAAAGTTTGGCCACCGTGGCAAGCTG 83
QY 168 MetThrProGluArgArgAlaIleTrpAlaIleTyrValTrpCysArgTrpAsp 187
Db 84 TTGACCCGCCGCCACCGCGCTAGCTGCTGATGCTCTACACCTGGTGGCGCCATGCGAT 143
QY 188 GluLeuValAspGlyProAsn-----AlaSerHisIleThr 199
Db 144 GAGCTCATTCAGCAGACCCAGCGCTTCGCGAGGCGCGCGGAGGAGGAGGCGC 203
QY 200 ProGlnAlaLeuAspArgTrpGluThrArgLeuGluAspIlePheSerGlyArgProPhe 219
Db 204 ACCACCGCTGGCGCGCTGGCGCGCTGACCGCTGCGCGCGGCTTGAAGGGCGCGAGATG 263
QY 220 ---AspMetLeuAspAlaAlaLeuSerAspThrValSerArgPheProValAspIleGln 238
Db 264 CAGGATCCGCGCTTCGCTTCAGGAGTGGCGCTGACCCACCGTATTACGCCCGCC 323
QY 239 PropheArgAspMetIleGluGlyMetArgMetAspLeuTrpLysSerArgTrpLysThr 258
Db 324 ATGGCGCTGCTCACCTCGACGCTTGGCATGGAGCTGCGCTCAGACCGCGCTATGTCACC 383
QY 259 PheAspGluLeuTyrLeuTyrCysTrpValAlaGlyThrValGlyLeuMetSerVal 278
Db 384 TTTGAGGATACGCTGCTGCTACTGCTATCAGTGGCGGCGCTGGTGTGATGATGCGC 443
QY 279 ProValMetGlyIleAlaProGluSerLysAlaThrThrGluSerValTrpAsnAla 298
Db 444 AGGTGATGGCGCTG-----CGGGATGAGCGGCTGGTGGATGCGCGC 485
QY 299 LeuAlaLeuGlyLeuAlaAsnGlnLeuThrAsnIleLeuArgAspValGlyGluAspAla 318
Db 486 TGGGATCTGGGCTGGCTTCCAGCTGACGAATATCGCCCGGATATTATTAGCATGCGC 545
QY 319 ArgArgGlyArgValTrpLeuProGlnAspGluLeuAlaGlnAlaGlyLeuSerAspGlu 338
Db 546 GCTATTGACCGTGTCTGCTGCGCGGAGTGGCTGCGAGATGCGCGGCTGACCCCGGAG 605

QY 339 AspPheala-GlyArgValThrAspLysTyrArgAsnPhemMetLysLysGlnIleG1 358
 Db 606 AACATATCGCGCGGAGAAATCGGCGCTGGCGGCTGGCG -GAGCGGCTATTGA 664
 QY 358 nArgAlaArgLysPheAspGluSerGluLysGlyValThrGluLeuAspSerAlase 378
 Db 665 TGCGCAGACGCGTACTACATCTCCCGCGCGGCTACACGATCTGCGCGCGCGCTG 724
 QY 378 rArgTrrProValLeuThrAlaLeuLeuTyrArgLysIleLeuAspGluLeuG1 398
 Db 725 CGCTGGCGGATCGCCACCGCGCGCGCTACCGGGAGATCGGTATTAGGTAAAGC 784
 QY 398 aAsnAspTyrAsnAsnPhetrArgAlaTyrValSerLysProLysLysLeuLeuTh 418
 Db 785 GCGCGGAGGCGCGCTGGGATCGCGCGCGCGCGCGCGCGCGCGCGCGCGCGCGCG 844
 QY 418 rLeuProIleala 422
 Db 845 GCTGATGCGGCA 857

RESULT 15
 PCT-US95-13937A-1
 : Sequence 1, Application PC/TUS9513937A
 : GENERAL INFORMATION:
 : APPLICANT: Hauptmann, Randal
 : APPLICANT: Eschenfeldt, William H
 : APPLICANT: English, Jaml
 : APPLICANT: Brinkhaus, Friedhelm L
 : TITLE OF INVENTION: Enhanced Carotenoid Accumulation
 : TITLE OF INVENTION: In Storage Organs of Genetically
 : TITLE OF INVENTION: Engineered Plants
 : NUMBER OF SEQUENCES: 9
 : CORRESPONDENCE ADDRESS:
 : ADDRESSEE: Amoco Corporation, Law Dept.
 : STREET: 55 Shuman Boulevard, Suite 600
 : CITY: Naperville
 : STATE: IL
 : COUNTRY: USA
 : ZIP: 60563-8437
 : COMPUTER READABLE FORM:
 : MEDIUM TYPE: Floppy disk
 : COMPUTER: IBM PC compatible
 : OPERATING SYSTEM: PC-DOS/MS-DOS
 : SOFTWARE: Patentin Release #1.24
 : CURRENT APPLICATION DATA:
 : APPLICATION NUMBER: PCT/US95/13937A
 : FILING DATE:
 : CLASSIFICATION:
 : ATTORNEY/AGENT INFORMATION:
 : NAME: Galloway, Norval B
 : TELECOMMUNICATION INFORMATION:
 : TELEPHONE: 7087172447
 : TELEFAX: 7087172430
 : INFORMATION FOR SEQ ID NO: 1:
 : SEQUENCE CHARACTERISTICS:
 : LENGTH: 1083 base pairs
 : TYPE: nucleic acid
 : STRANDEDNESS: single
 : TOPOLOGY: linear
 : MOLECULE TYPE: DNA (genomic)
 PCT-US95-13937A-1

Alignment Scores:
 Pred. NO.: 7,77e-33 Length: 1083
 Score: 361.50 Matches: 95
 Percent Similarity: 50.18% Conservative: 48
 Best Local Similarity: 33.33% Mismatches: 126
 Query Match: 15.93% Indels: 17
 DB: 5 Gaps: 3

US-09-847-081b-2 (1-440) x PCT-US95-13937A-1 (1-1083)

QY 148 AspArgCysGlyGluValCysAlaGluTyrAlaLysThrPheTyrLeuGlyThrLysLeu 167
 Db 24 GACCACGCCAGCAGACCATGGCCACGGCTCGCAAAAGTTTGGCCACCGCTGCCAAGCTG 83
 QY 168 MetThrProGluArgArgAlaIleThrAlaIleTyrValTrrPcCysArgArgThrAsp 187
 Db 84 TTCAGACCCGCCACCCCGCGTACGCTGCTACACCTGGTGGTGGCTGGCTGGCTGGCT 143
 QY 188 GluLeuValAspGlyProAsn-----AlaSerHisIleThr 199
 Db 144 GAGCTATTACCAACACACCCACCGCTTCGCCACGAGCGCGCGCGGAGGAGGAGGCC 203
 QY 200 ProGlnAlaLeuAspArgTrrPgluThrArgLeuGluAspIlePheSerArgArgProPhe 219
 Db 204 ACCAGCGCTGCGCGCGCTGGCGCACCTGACCGCTGGCGGCTTTGAAGGGCGGAGATG 263
 QY 220 ---AspMetLeuAspAlaAlaLeuSerAspThrValSerArgPheProValAspIleGln 238
 Db 264 CAGGATCCGCGCTTCGCTGCTTTTCAGGAGGTGGCGCTGACCCACGCTATTACCCCGCG 323
 QY 239 ProPheArgAspMetIleGluGlyMetArgMetAspLeuTrrPcLysSerArgTrrLysThr 258
 Db 324 ATGGCGCTCGATCACCTCGACGGCTTTCGATGACGTGGCTGACACCGCTATTGTCTACC 383
 QY 259 PheAspGluLeuTyrLeuTyrCysTyrTrrValAlaGlyThrValGlyLeuMetSerVal 278
 Db 384 TTTGAGGATACGCTGCTACTGCTATACGTGGCGGCTGGTGGTGGTGGTGGTGGTGGT 443
 QY 279 ProValMetGlyIleAlaProGluSerLysAlaThrThrGluSerValTrrAsnAla 298
 Db 444 AGGGTGTGGCGCT-----CGGATGAGCGGCTGCTGGATCGCGCG 485
 QY 299 LeuAlaLeuGlyLeuAlaAsnGlnLeuThrAsnIleLeuArgAspValGlyGluAspAla 318
 Db 486 TGGGATCTGGGGCTGGCGCTTCCAGCTACGATATATCCCGGGATATTATTGACGATGCG 545
 QY 319 ArgArgGlyArgValTrrLeuProGlnAspGluLeuAlaGlnAlaGlyLeuSerAspGlu 338
 Db 546 GCTATTGACCGCTCTATCTGCGCGCGGAGTGGCTGCAGGATGCGCGGCTGACCCCGGAG 605
 QY 339 AspIlePheAla-GlyArgValThrAspLysTrrArgAsnPhemMetLysLysGlnIleG1 358
 Db 606 AACTATCCCGCGGAGAAATCGGCGCGCTGGCGGCTACACGATCTGCGCGGCTATTGA 664
 QY 358 nArgAlaArgLysPheAspGluSerGluLysGlyValThrGluLeuAspSerAlase 378
 Db 665 TGCGCAGACGCGTACTACATCTCTCCAGCGCGGCTACACGATCTGCGCGCGCGCTG 724
 QY 378 rArgTrrProValLeuThrAlaLeuLeuTyrArgLysIleLeuAspGluLeuG1 398
 Db 725 CGCTGGCGGATCGCCACCGCGCGCGCTACCGGGAGATCGGTATTAGGTAAAGC 784
 QY 398 aAsnAspTyrAsnAsnPhetrArgAlaTyrValSerLysProLysLysLeuLeuTh 418
 Db 785 GCGCGGAGGCGCGCTGGGATCGCGCGCGCGCGCGCGCGCGCGCGCGCGCGCGCG 844
 QY 418 rLeuProIleala 422
 Db 845 GCTGATGCGGCA 857

Search completed: April 5, 2003, 04:28:20
 Job time : 88 secs